



South Coast
Air Quality Management District
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MOBILE SOURCE DIVISION
OFFICE OF SCIENCE & TECHNOLOGY ADVANCEMENT
FACSIMILE TRANSMITTAL SHEET

TO: Harold Holmes & Mike Jaczola	FROM: Randall Pasek
COMPANY: CARB	DATE: 2/25/09
FAX NUMBER: 916.322.6088	FAX NUMBER: 909.396.3324
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SUBJECT: AQMD Comment Letter	TOTAL NO. OF PAGES INCLUDING COVER: 4

☐ URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY

Please see our attached letter concerning CARB's report, **Technical Options to Achieve Additional Emissions and Risk Reduction from California Locomotives and Railyards.**



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*Office of the Executive Officer
Barry Wallerstein, D.Env.
909.396.2100, fax 909.396.3340*

February 24, 2009

Mr. James Goldstene
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Dear Mr. Goldstene:

SCAQMD Staff Comments on the
California Air Resources Board Report – Technical Options to Achieve
Additional Emissions and Risk Reduction from California Locomotives and Railyards

The South Coast Air Quality Management District (AQMD) staff appreciates the opportunity to provide comments on California Air Resources Board's (CARB) report titled "Technical Options to Achieve Additional Emissions and Risk Reduction from California Locomotives and Railyards." We appreciate the additional efforts your staff has made in allowing us to participate early in the process of the development of this report, and look forward to a continued close working relationship. We commend CARB staff on preparing a succinct summary of the many available control options to reduce locomotive and railyard emissions. While we have some comments, they are relatively minor and we believe the overall conclusions of the report will not change. As such, we urge CARB to begin immediately to develop, in parallel, the implementation plan to realize the earliest health benefits from reducing emissions from locomotives and railyard activities in the South Coast Air Basin.

As you are well aware, emissions from rail and railyard activities are significant, and early, effective control of these emissions is critical in minimizing their adverse health effects and achieving the federally mandated air quality standards for PM_{2.5} and ozone. AQMD staff believes the most expeditious means to minimize these emissions is to apply all feasible railyard operational and physical changes that minimize the localized risk, as well as deploying the cleanest engine technologies that are available today or in the near future, on all locomotives, cargo handling equipment, and drayage trucks. These clean technologies would include the cleanest technology available from the following list: 1) zero or near zero emissions (e.g., elec-

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trification); 2) alternative fueled vehicles (e.g., LNG, CNG, or electric); and 3) Tier 4 locomotive and off-road engine, and 2010 on-road engine emission levels (new purchase or retrofits).

Staff believes that zero or near-zero technologies are available today for most of these sources and we strongly encourage CARB staff to move forward immediately in developing the implementation plan as you finalize the technical options report. Additionally, as CARB develop the implementation plan, high priority should be given to railyard operational and physical changes to minimize localized health risk as well as to maximize mass reductions of NOx, PM, and VOC emissions. This two-metric approach will ensure maximum health benefits to the residents living near railyards and to the region.

Our specific comments on the report are provided below:

High Priority Options (Table ES-6)

We strongly agree that repowering and replacing all of the older switch and medium horsepower locomotives with the cleanest engines possible including retrofitting with selective catalytic reduction (SCR) and diesel particulate filters (DPF) controls resulting in emission levels equivalent to the Tier 4 locomotive exhaust emissions standards is feasible by 2014. In addition, the interstate line-haul fleet turnover to Tier 4 should be greatly accelerated as a High Priority Option.

Cost-Effectiveness Calculation Methodology

NOx and PM emission reductions are summed to calculate the cost-effectiveness values shown in the report. Because NOx emissions reductions dominate (on the order of 10 to 30 times greater than PM), this masks the cost-effectiveness differences between the options for PM reductions, and because of the high toxicity of diesel PM, we recommend that the cost-effectiveness be calculated and reported separately for PM and NOx.

Additionally, while we understand that the emission reductions and cost-effectiveness values calculated for the locomotive control options (Options 1 through 9) do account for the reductions expected from implementation of the 2008 U.S. EPA locomotive rule, it is not clear from the summary tables and the appendices that this is the case. Additional language should be added to clarify this point.

Rail Electrification Options 29-31

Under Options 29 (dual mode electric locomotives) and 31 (Linear Induction Motor (LIM) technology), emission reductions and cost-effectiveness are determined assuming all main line locomotives and 460 miles of track in the South Coast Air Basin are electrified. However, under Option 30 (maglev technology) only 4.7 miles of track are assumed in the calculation of emission reductions and cost-effectiveness. As these are competing technologies, a consistent comparison would prove more useful. As such, we recommend calculating cost-effectiveness and emission reductions on a per mile basis or on a similar project basis (e.g., electrification of track from the Ports to the intermodal facility).

Additionally, it is assumed that dual mode (diesel and electric modes) locomotive would be operated to allow better interface with the national rail network under Option 29, which results in significant additional cost. The other two options (Options 30 and 31) do not have this flexibility

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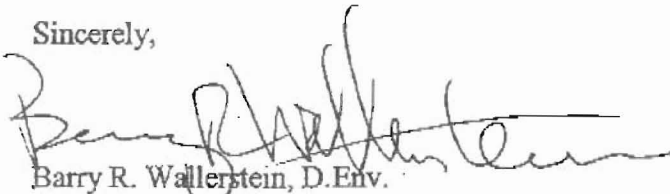
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and result in significant reduced cost compared to Option 29. We believe a more realistic comparison under Option 29 would be to assume the use of dedicated, all-electric locomotives, which are less expensive since there is no added diesel engine. Should CARB staff desire to include the cost of a dual mode locomotive, we believe a cost premium of 50% is more appropriate instead of the 500% premium stated in the report. Our research into the cost of existing dual mode locomotives indicates the lower premium is more appropriate.

In summary, we compliment CARB staff on producing a clear and concise report on the many technical options for reducing emissions from locomotives and railyards. However, we must move forward in an aggressive manner to reduce emissions from locomotives and railyards. We urge CARB staff to immediately begin developing the implementation plan as CARB finalize the technical options report. As you develop the implementation plan, we urge you to place a high priority to not only options that produce the largest mass emission reductions from locomotives and other railyard related sources, but also to options that reduce the localized adverse health effects from rail and railyard activities.

I look forward to a continued close working relationship with you and your staff on this and the implementation plan. If you have any questions regarding the AQMD staff's comments, please feel free to call me or Mr. Henry Hogo, Assistant Deputy Executive Officer – Mobile Source Division, Science and Technology Advancement, at (909) 396-3184.

Sincerely,



Barry R. Wallerstein, D.Env.
Executive Officer

CSL:HH:RP

Cc: Mike Scheible, CARB
Bob Fletcher, CARB
Dean Simeroth, CARB
Harold Holmes, CARB